

CLAIMS LISTING

1-9. (cancelled)

10. (currently amended) A fine pore filter prepared by the method of:

forming a slurry comprising solvent, alumina and at least 0.01 wt % surfactant wherein said slurry has sufficiently low shear stress at high shear rates less than 12,000 dynes/cm² at a shear rate of 500/sec. such that it can enter organic foam with pore size equal to or less than 60 ppi;

impregnating an organic foam with said slurry to form an impregnated foam wherein said organic foam has a pore size equal to or less than 60 ppi;

drying said impregnated foam to form a dry impregnated foam;

impregnating an organic foam with said slurry to form an impregnated foam;

drying said impregnated foam to form a dry impregnated foam;

heating said dry impregnated foam to remove said organic foam thereby forming a green ceramic; and

heating said green ceramic to a temperature sufficient to
sinter said green ceramic wherein
said filter has a density of less than 10% of the
theoretical density for a ceramic material of the same
size and a compressive yield stress of at least ~~20~~ 80
psi.

11. (cancelled)

12. (currently amended) A filter for filtering impurities from
molten metal wherein said filter comprises ceramic and said
filter has a density of less than 10% of the theoretical
density for a ceramic material of the same size and a
compressive yield stress of at least ~~20~~ 60 psi and said
filter has a porosity no coarser than 60 ppi.

13. (cancelled)

14. (currently amended) The filter of claim ~~13~~ 12 wherein said
filter has a density of no more than 6% of the theoretical
density for a ceramic material of the same size.

15. (cancelled)

16. (cancelled)

17. (currently amended) The filter of claim ~~16~~ 12 wherein said
filter has a compressive yield stress of at least 80 psi.

18.(currently amended) A filter of claim 12 wherein said filter has a ~~density of at least 12% of the theoretical density for a ceramic material of the same size and a~~ compressive yield stress of at least 90 psi.

19.(cancelled)

20.(cancelled)

21.(previously presented) A filter of claim 12 comprising a pressure drop of less than 3 in./water at an air flow velocity of 285 ft/min. in a 4 inch diameter circular area.

22.(previously presented) A filter of claim 12 having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.

23.(cancelled)

24.(cancelled)

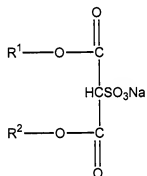
25.(currently amended) The fine pore A filter of claim ~~13~~ 10 wherein said filter has a ~~density of at least 12% of the theoretical density for a ceramic material of the same size and a~~ compressive yield stress of at least 90 psi.

26.(currently amended) The fine pore A filter of claim 10 comprising a pressure drop of less than 3 in./water at an air flow velocity of 285 ft/min. in a 4 inch diameter

circular area.

27. (currently amended) The fine pore A filter of claim 10 having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.

28. (previously presented) The fine pore filter of claim 10 wherein said surfactant comprises Formula I:



Formula I

wherein R¹ and R² independently represent an alkyl of 1-8 carbons with the proviso that the number of carbons in R¹ and R² combined does not exceed 15.

29. (previously presented) The fine pore filter of claim 28 wherein the number of carbons in R¹ and R² combined does not exceed 14.

30. (previously presented) The fine pore filter of claim 29 wherein the number of carbons in R¹ and R² combined does not exceed 13.

31. (previously presented) The fine pore filter of claim 10
wherein said slurry comprises no more than 1 wt%
surfactant.
32. (cancelled)
33. (cancelled)
34. (previously presented) The fine pore filter of claim 10
wherein said alumina is selected from sintered alumina and
phosphate bonded alumina.
35. (new) A fine pore filter prepared by the method of:
forming a slurry comprising solvent, alumina and at least
0.01 wt % surfactant wherein said slurry has
sufficiently low shear stress at high shear rates less
than 12,000 dynes/cm² at a shear rate of 500/sec. such
that it can enter organic foam with pore size equal to
or less than 60 ppi;
impregnating an organic foam with said slurry to form an
impregnated foam wherein said organic foam has a pore
size equal to or less than 60 ppi;
drying said impregnated foam to form a dry impregnated foam;
impregnating an organic foam with said slurry to form an
impregnated foam;

drying said impregnated foam to form a dry impregnated
foam;
heating said dry impregnated foam to remove said organic
foam thereby forming a green ceramic; and
heating said green ceramic to a temperature sufficient to
sinter said green ceramic wherein
said filter has a density of less than 10% of the
theoretical density for a ceramic material of the same
size and a compressive yield stress of at least 20
psi.